EXHIBIT 37

Element D Services

Heating, Ventilating, and Air Conditioning

D304101 Patient Treatment Air Handling Distribution

PART 1 - GENERAL

1.01 OVERVIEW

A. This section supplements Design Guideline Elements D3041 and D300101 on air handling distribution with additional criteria for projects involving design of patient treatment or clinical space.

B. Refer to Design Guideline Element D3041 for the following:

1. General design criteria related to outside air pretreat units, terminal units, air devices, fan coil units, unit heaters, stairwell pressurization fans, ductwork, and exhaust / intake louvers.

2. Special Contract Document Requirements and products applicable to the Project.

C. Air Handling Unit selection shall be compliant with ASHRAE 90.1.

D. Refer to NFPA 92A for Smoke Control Systems Utilizing Barriers and Pressure Differences.

PART 2 - DESIGN CRITERIA

2.01 GENERAL

A. Air handling systems that serve outpatient and inpatient care areas shall be designed as single duct VAV distribution systems.

B. Air handling units serving inpatient areas shall have redundant (N+1) fan systems. Multiple supply and return air fans or fan array technology shall be incorporated in the unit design to achieve redundancy.

C. Dual duct air handling units are to be specified only when an existing air handler serving a dual duct air distribution system is replaced.

D. Air handling systems that serve Operating Rooms (OR), prep, and post-anesthesia care units (PACU) shall have redundant air handling units and return air fan systems.

2.02 SPECIAL VENTILATION REQUIREMENTS

A. Patient care areas that require special ventilation include Operating Rooms, Catheterization Labs, Airborne Infection Isolation Rooms, Protective Environment (PE) Rooms, Laboratories, and local exhaust systems for hazardous agents. These areas require redundant mechanical systems to ensure infection control and to ensure that ventilation deficiencies do not occur due to loss of power of major HVAC equipment components.

B. Airborne Infection Isolation Rooms:

1. Rooms must be designed as once-through ventilation systems served with dedicated redundant (N+1) exhaust air fan systems. The quantity of supply air to each isolation room shall meet the required supply and exhaust air offset to maintain the room at a negative pressure per Facility Guideline Institute (FGI) Healthcare requirements and also meet room total cooling heating load requirements.

2. The exhaust airflow rate from the isolation room shall meet the minimum required air change rate and also maintain constant exhaust airflow during all modes of system operation. The patient private restroom shall be considered part of the room exhaust air requirement.

3. For each project, evaluate with the Owner if the total exhaust from all combined isolation rooms be filtered with a bag-in and bag-out HEPA filter caisson prior to being discharged to the outdoors by a high plume exhaust fan.

C. Protective Environment (PE) Rooms:

1. Rooms must be designed at proper outside ventilation and recirculation air change rates, and maintained at the required minimum positive pressure with respect to the corridor and adjacent rooms or spaces per FGI Healthcare requirements. Filter the supply air to PE rooms using MERV 18 HEPA filters.

2. The quantity of supply air to each PE room shall meet the required supply and return air offset to maintain the room at a positive pressure with respect to adjacent spaces and the corridor and to also meet the room's cooling and heating load requirements.

3. The exhaust airflow rate from the patient restroom shall be included in the required air change rate and to maintain constant exhaust airflow during all modes of system operation.

D. General Operating Room (OR):

1. Rooms must be designed at proper outside ventilation and recirculation air change rates, and maintained at the required minimum positive pressure with respect to the corridor and adjacent rooms or spaces per the AIA requirements. Filter supply air to rooms using MERV 17 HEPA filters.

2. The quantity of supply air to each room shall meet the required supply and return air offset to maintain the room at a positive pressure with respect to adjacent spaces and to also meet room total cooling and heating load requirements.

3. The A/E must consider special exhaust air requirements if a laser knife will be used in the room to perform cutting and cauterizing of tissue and blood vessels.

4. The exhaust airflow rate from the room shall meet the minimum required air change rate and also maintain constant exhaust airflow during all modes of supply air system operation.

5. If explosive anesthetic medical gases are used in the room, then an emergency smoke purge fan must meet the required air change rate and also maintain the affected operating room at a slightly negative pressure with respect to the sterile processing suite and adjacent operating room and corridors.

E. Orthopedic Operating Rooms:

1. Rooms designed for surgery or bone marrow transplants shall have an outside ventilation rate of 4 air changes per hour and a recirculation rate of 40 air changes per hour. Orthopedic Operating Rooms shall be maintained at the required minimum positive pressure with respect to the corridor and adjacent rooms or spaces per AIA requirements. Filter supply air to rooms using MERV 18 HEPA Filters.

2. The quantity of supply air to each room shall meet the required supply and return air offset to maintain the room at a negative pressure respect to adjacent spaces and to also meet room total cooling and heating load requirements.

3. The A/E must consider special snorkel exhaust requirements if a laser knife will be used in the room to perform cutting and cauterizing of tissue and blood vessels.

4. If explosive anesthetic medical gases are used in the room, an emergency smoke purge fan must meet the required air change rate and also maintain the affected room at a slightly negative pressure with respect to the sterile processing suite and adjacent operating rooms and corridors.

F. Catheterization (Cath) Lab:

1. Labs must be designed at proper outside ventilation and recirculation air change rates of and maintained at the required minimum positive pressure with respect to the corridor and adjacent rooms or spaces per AIA requirements. Filter supply air using MERV 17 HEPA filters.

2. The quantity of supply air to each Cath Lab shall meet the required supply and return air offset to maintain the room at a positive pressure with respect to adjacent spaces and also to meet room total cooling and heating load requirements.

3. The exhaust airflow rate from each Cath Lab room shall meet the minimum required outdoor ventilation air change rate.

4. If explosive anesthetic medical gases are used in the Cath Lab, an emergency smoke purge fan shall meet the required air change rate and also maintain the affected Cath Lab at a slightly negative pressure with respect to adjacent Cath Labs and corridors.

2.03 PATIENT TREATMENT AIR HANDLING UNITS

A. Each air handling unit shall be a variable volume, draw through type and shall include the following components:

1. Mixing air plenum section.

2. Pre-filter section MERV 7 as rated by ASHRAE Standard 52.2-99.

3. Hot water pre-heat coil. Prefer that coil supply and return headers be piped on one side of the air handler. Refer also to requirements listed in Design Guideline Element D3041.

4. Access section.

5. Chilled water-cooling coil: prefer that coil supply and return headers be piped on one side of the air handler. Refer also to requirements listed in Design Guideline Element D3041.

    a. If two cooling coils are required to achieve the design leaving air temperature setpoint, the two coils need to be piped in series, and an access section will be required to maintain the second cooling coil.

6. Access section.

7. Fan section: direct drive fans preferred; centrifugal type with an airfoil blade design; minimum 12 blades per fan. The fan wheel speed shall be controlled with a VFD.

8. MERV 14 (HEPA) final filters, unless noted otherwise in this Design Guideline Element.

9. Discharge plenum.

10. High static pressure and smoke detection shutdown control and reset capability.

11. Instrument measurement taps for static pressure, temperature, etc.

2.04 TERMINAL UNITS AND AIR VALVES

A. This section addresses design of terminal units for zone air distribution in patient treatment areas. Refer to Design Guideline Element D3041 for general design criteria related to terminal units.

B. Variable air volume terminals that modulate supply air based on ASHRAE 62.1 and room temperature shall be confined only to spaces that do not require constant air change rates and/or critical pressure differentials with respect to adjoining spaces.

C. Specify single duct, constant air volume (CAV) terminals with zone heat for operating rooms and exam rooms where air change rates need to remain constant.

D. Specify single duct variable volume terminal units (except where medical protocol or applicable Code/Standards may otherwise require a constant volume terminal unit) with hot water zone heating coils. Protective Environment Rooms and Airborne Infection Isolation Rooms will require air valves that are capable of maintaining a constant offset between supply air and return or exhaust air from the space which is dependant on the function of the room. Hot water reheat coils are used to maintain room temperature settings.

E. For all occupied patient spaces, both exterior and interior zones, the minimum hot and cold settings of terminal units shall be such that minimum ventilation needs per ASHRAE 62.1 for the occupants are met at all times.

F. Dual duct terminal units VAV or CAV should be used for renovations when existing building are served by dual duct air handling systems.

G. Specify double wall casing liners for all terminal units that serve the following areas , per the Master Construction Specifications:

1. All inpatient rooms, including airborne infection isolation rooms and protective environment rooms

2. All operating and (invasive) procedure rooms

3. Surgery prep and post-anesthesia care units (PACU), recovery rooms

4. Laboratories not served by laboratory air valves

H. When zoning patient treatment areas, design no more than three (3) exam rooms per terminal unit.

2.05 AIR DEVICES

A. Air supply for all operating rooms and Cath Labs shall be from laminar flow supply air devices in the ceiling, located near the center of the work area. Design should consider turbulence and other factors of air movement to minimize fall of particulates onto sterile surfaces.

B. Each operating room and Cath Lab must have at least two (2), return air inlets located as remotely from each other as practical. Return or exhaust air inlets shall be near the floor level per FGI Guidelines. Smoke evacuation exhaust air grilles are to be installed in the ceilings of ORs and Cath Labs where nitrous oxide will be used for anesthesia.

C. Wall mounted exhaust air devices shall be located near the floor and at the head of the patient bed for Post-Operative Rooms where patients have received anesthesia using nitrous oxide gas.

D. Supply air devices serving Protective Environment (PE) rooms shall be located above the patient bed and exhaust air devices shall be located near the patient room door.

E. Exhaust air devices shall be located directly above the patient bed on the ceiling or on the wall near the head of the bed for patient Airborne Infection Isolation Rooms.

2.06 HUMIDIFICATION

A. For air distribution systems located in climate zones where low humidity conditions exist during the winter months, the humidifier shall be a steam manifold jacketed type with return air duct-mounted sensor/controller and supply duct-mounted high limit switch. The humidifier shall be installed downstream of the final filter of the air handling unit. Clean steam must be used for humidification purposes.

B. For air distribution systems located in climate zones where high humidity conditions exist except for short periods of time during the winter months, a packaged electronic humidifier can be used in lieu of the standard steam system humidifier. When an electronic humidifier is used in the design, the makeup water to the unit needs to be a 50/50 mix of either RO or soft water mixed with domestic potable water.

C. Humidity requirements for each Operating Room, Orthopedic Operating Room, and Cath Lab shall be individually maintained.

2.07 DUCTWORK

A. Except for patient Airborne Infection Isolation Rooms and Protective Environment Rooms, which are 100 percent exhausted, return air shall be ducted back to the air handling unit and shall be considered as a design standard for all patient care areas.

B. Duct sections shall be made of stainless steel where clean steam humidifiers are installed, and stainless steel train piping or tubing shall be placed at the bottom of the duct to prevent condensed steam from remaining inside the supply air duct.

PART 3 - SPECIAL CONTRACT DOCUMENT REQUIREMENTS

3.01 GENERAL

A. Not applicable.

PART 4 - PRODUCTS

4.01 GENERAL

A. Refer to Owner's Master Construction Specifications. These are available on the Owner's Design Guidelines website: http://www2.mdanderson.org/depts/cpm/standards/specs.html

B. Consider the use of heat recovery components in the design of the system where the sensible and latent heat from outside air is transferred to the exhaust air. Refer to Design Guideline Element 3041 for energy recovery requirements.

PART 5 - DOCUMENT REVISION HISTORY

Issue	Date	Revision Description	Reviser
	01-01-07	Initial Adoption of Element	
Rev. 1	12-11-07	Revised 2.01 B and C, 2.02 A, B rolled in 2.04 to 2.02 Revised 2.02 G, I, J, and K, 2.06 now is 2.05, revised 2.05 F and added G. 2.06 redefined as Humidifiers.	PDN

Element D Services

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Issue	Date	Revision Description	Reviser
Rev. 2	12-09-08	Included sustainability requirements throughout document based upon TGCE's evaluation. (Paragraphs 2.02 B3; 2.02 B 5; 2.02 G 1; 2.02 G 3; 2.03 D 6 a; 2.03 D 6 b; 2.04 B & 4.01 B)	JCD
Rev. 3	07-23-09	Added 1.01 D. reference standard.	PDN
Rev. 4	07-08-10	Revised 2.02 A., 2.02, B.8. 2.03. Deleted requirement for dual duct AHU. Editorial corrections to other sections.	PDN
Rev. 5	05-17-12	2.02 B. 2 Revised Pre-Filter from MERV 8 to 7, and 2.02 B 8. Revised the Final filter From MERV 18 to 14.	JR / VS PDN
Rev. 6	06-14-12	2.03 B added clarification that VAV terminals for hospitals are to be double wall construction.	JR / VS PDN
Rev. 7	06-28-12	2.03 E. Revised the statement to direct the engineer to use double wall terminal units for all patient and clinic areas.	VS/PDN
Rev. 8	07-19-12	Updated terminology; created 2.02 Special Ventilation Requirements; updated 2.03 ,2.04 B. C. D. and F., and G., Air Handling Units; revised 2.05 Air Devices, and 2.07 A.	SK / VS/ PDN

END OF ELEMENT D304101